DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 1-21 are objected to because of the following informalities:

- Claims 1, 11, and 21 have wording that is confusing because they use language that can be interpreted to mean a claim that includes itself. In other words, claim 1 reads "A voice dialogue system comprising: … and said voice dialogue system" *(claim 1, lines 1 and 14, respectively)*, which may be understood to mean that a voice dialogue system comprises itself. Claims 11 and 21 use similar language. For examination purposes, the claims have been interpreted to mean that the section following the "said voice dialogue system wherein" is meant to further describe and limit the "dialogue control means." It is suggested that the claims be reworded so that this section is located adjacent to the dialogue control means that it describes.
- In claims 1, 11, and 21 *(claim 1, line 14; claim 11, line 12; claim 21, line 14)*, there is a comma after the word "wherein" after the aforementioned "said voice dialogue system wherein" phrase in claim 1 (and corresponding similar phrases in claims 11 and 21) which is unnecessary. The separation from the following clause is confusing.

- Claims 2-10 and 12-20 are objected to for the incorrect use of a semicolon following the words "wherein" or "comprising" *(line 1 of claims 2-10 and 12-20)*. For examination purposes, the semicolons have been assumed to be colons.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4-10 and 14-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 4-10 and 14-20 refer to "one of said blocks". However, it is not clear if the applicant intended to refer to one of the blocks that comprise the dialogue *("one of said blocks", in line 2 of claims 4-10 and 14-20)* or one of the "plural ***types*** of blocks" that comprise the predetermined format of the dialogue *(claim 3, line 3, emphasis added)*. Clarification is needed as to whether the blocks that are described refer to individual blocks or to types of blocks. For examination purposes, the blocks have been interpreted as types of blocks.

6. Claims 5-10 and 15-20 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. For example, claim 5 claims a second block (or type of block,

as this claim has been interpreted – see discussion above) and refers to a first utterance await and recognition step which is not actually described in claim 5. It appears that the claim is attempting to incorporate elements of a previously defined block ("a first block", defined in claim 3) without actually stating this. Similarly, subsequent claims 6-10 (and similar claims 15-20) refer to elements which are not defined in the claim itself but appear to be necessary to the claim. Further clarification is necessary as to the scope of these claims. For purposes of examination, it has been assumed that the blocks in these dependent claims incorporate elements of the blocks described in their respective parent claims.

7. Claims 9, 10, 19, and 20 recite limitations that refer to elements as a "second step" or a "third loop". There is insufficient antecedent basis for this limitation in the claims, as there does not seem to be a first step or first or second loop. Since the claims describe a sequence of steps, the language is confusing and needs clarification. For purposes of examination, it has been assumed that there are no first or second steps or loops.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Marx et al. (US 6,173,266), hereinafter referred to as Marx.

8. With respect to independent **claim 1**, Marx teaches a voice dialogue system comprising:

- speech recognition means for performing speech recognition on the user's utterance *(Fig. 4, col. 7, lines 29-46, speech input components (450) process incoming speech signals during execution of a service, speech input components typically include a speech recognition engine)*;
- dialogue control means for controlling a dialogue with said user according to a scenario previously given, based on the speech recognition result by said speech recognition means *(Fig. 4, col. 6, lines 23-52, an application performs one or more dialogue tasks to provide a user-defined service, the call flow describes its interactive conversation with callers using function calls to dialogue modules)*;
- response generating means for generating an answering sentence corresponding to the contents of said user's utterance, responding to a request from said dialogue control means *(Fig. 4, col. 6, line 61-col. 7, line 3, dialogue modules (430) perform functions enabling the system to handle output and input audio signals, including outputting prompts and processing input speech)*; and
- speech synthesis means for performing speech synthesis processing to one sentence in said scenario reproduced by

said dialogue control means or said answering sentence generated by said response generating means *(Fig. 4, col. 7, lines 4-28, speech output components (440) may output prerecorded speech or include a speech synthesis system to output speech prompts or other audio signals)*; and

- said voice dialogue system wherein, said dialogue control means requests said response generating means to generate said answering sentence as the occasion demands, based on the contents of said user's utterance *(Fig. 5-6, col. 9, lines 14-51 and col. 11, lines 32-48, if one or more hypotheses are identified from the user's speech, prompts for the hypotheses are output to confirm the user's response; col. 3, lines 46-56, an example of output speech is an apology prompt to be output if the caller's response is not recognized)*.

9. With respect to **claim 2**, Marx teaches everything claimed, as applied above (see claim 1); in addition, Marx further teaches the voice dialogue system according to claim 1, wherein; said dialogue control means controls said dialogue with said user based on the attribute of said answering sentence generated by said response generating means *(Figs. 4 and 6, col. 6, lines 23-52 and col. 14, lines 1-8, an application performs one or more dialogue tasks to provide a user-defined service, the call flow describes its interactive conversation with callers using function calls to dialogue modules, dialogue modules perform tasks such as outputting a prompt, identifying the caller's speech (attribute), storing information from the speech, and saving a termination condition based on successful or unsuccessful completion of the task)*.

10. With respect to **claim 3**, Marx teaches everything claimed, as applied above (see claim 1); in addition, Marx further teaches the voice dialogue system according to claim 1, wherein; said scenario is made by combining an arbitrary number of plural types of blocks in a respectively predetermined format providing for one turn of a dialogue with said user, in an arbitrary order *(col. 3, lines 34-39; col. 8, lines 32-51, a plurality of dialogue modules are selected and interconnected in an order defining the call flow of the application)*.

11. With respect to **claim 4**, Marx teaches everything claimed, as applied above (see claim 3); in addition, Marx further teaches the voice dialogue system according to claim 3, comprising;
as one of said blocks, a first block having *(Fig. 6, flow chart of common steps performed by a dialogue module)*,

- a first reproducing step for reproducing said one sentence to urge said user to utterance *(Fig. 6, col. 10, line 61-col. 11, line 2, initial prompt is output to request the speaker to speak the desired information (610))*,
- a first utterance await and recognition step for awaiting said user's utterance after the above first reproducing step, and when said user uttered, recognizing the contents of the above utterance *(Fig. 6, col. 11, lines 3-48, the caller's response is collected (620) and a matching entry or entries in a specified vocabulary is determined using input speech components (450))*, and

- a second reproducing step, following said first utterance await and recognition step, for reproducing corresponding one sentence previously provided, depending on whether the contents of the above utterance is positive or negative *(Fig. 6, col. 11, lines 43-48, confirmation step (630) sequentially outputs confirmation prompts for each hypothesis to confirm or reject them; col. 15, lines 16-28, one example of a dialogue module is a Yes/No module)*.

12. With respect to **claim 5**, Marx teaches everything claimed, as applied above (see claim 4); in addition, Marx further teaches the voice dialogue system according to claim 4, comprising; as one of said blocks, a second block having a first generation of answering sentence request step, when the contents of said user's utterance recognized in said first utterance await and recognition step is neither said positive nor said negative *(Fig. 6, col. 11, lines 3-48, the caller's response is collected (620) and a matching entry or entries in a specified vocabulary is determined using input speech components (450), module is not necessarily a Yes/No module)*, for requesting said response generating means to generate said answering sentence corresponding to said contents of said user's utterance *(Fig. 6, col. 11, lines 43-48, confirmation step (630) sequentially outputs confirmation prompts for each hypothesis to confirm or reject them)*.

13. With respect to **claim 6**, Marx teaches everything claimed, as applied above (see claim 5); in addition, Marx further teaches the voice dialogue system according to

claim 5, comprising; as one of said blocks, a third block having a first loop in which if the attribute of said answering sentence, that was generated by said response generating part responding to said request in said first generation of answering sentence request step, is the first loop type, it returns to said first utterance await and recognition step *(Fig. 6, col. 13, lines 12-67, if no response is collected or if the service is not able to confirm a hypothesis matching the caller's response (620a, 630a) dialogue module may determine to reattempt to collect a response using the same prompt method (610 via 640a))*.

14. With respect to **claim 7**, Marx teaches everything claimed, as applied above (see claim 5); in addition, Marx further teaches the voice dialogue system according to claim 5, comprising; as one of said blocks, a fourth block having a second loop in which if the attribute of said answering sentence, that was generated by said response generating part responding to said request in said first generation of answering sentence request step, is the second loop type, it awaits said user's utterance, and when said user uttered, it recognizes the contents of the above utterance, and then returns to said generation of answering sentence request step *(Fig. 6, col. 13, lines 12-67, if no response is collected or if the service is not able to confirm a hypothesis matching the caller's response (620a, 630a) dialogue module may determine to elicit a recognizable caller response using a fallback method, which may be prompting the user to spell his or her response, before returning to the main flow of the module)*.

15. With respect to **claim 8**, Marx teaches everything claimed, as applied above (see claim 5); in addition, Marx further teaches the voice dialogue system according to claim 5, comprising; as one of said blocks, a fifth block having,

- determination step for determining the attribute of said answering sentence, that was generated by said response generating part responding to said request in said first generation of answering sentence request step *(Fig. 6, col. 11, lines 3-48, the caller's response is collected (620) and a matching entry or entries in a specified vocabulary is determined using input speech components (450))*,
- a first loop in which if said attribute of said, answering sentence determined in the above determination step is the first loop type, it returns to said first utterance await and recognition step *(Fig. 6, col. 13, lines 12-67, if no response is collected or if the service is not able to confirm a hypothesis matching the caller's response (620a, 630a) dialogue module may determine to reattempt to collect a response using the same prompt method (610 via 640a))*, and
- a second loop in which if said attribute of said answering sentence determined in the above determination step is the second loop type, it awaits said user's utterance, and when said user uttered, it recognizes the contents of the above utterance, and then returns to said generation of answering sentence request step *(Fig. 6, col. 13, lines 12-67, if no response is collected or if the service is not able to confirm a hypothesis matching the caller's response (620a,*

630a) dialogue module may determine to elicit a recognizable caller response using a fallback method, which may be prompting the user to spell his or her response, before returning to the main flow of the module) .

16. With respect to **claim 9**, Marx teaches everything claimed, as applied above (see claim 3); in addition, Marx further teaches the voice dialogue system according to claim 3, comprising; as one of said blocks, a sixth block having,

- a second reproducing step for reproducing said one sentence omittable in said scenario if needed *(Fig. 6, col. 10, line 61-col. 11, line 2, initial prompt can be output to request the speaker to speak the desired information (610); col. 7, lines 17-28, output prompt may be a beep or include a "barge-in" detection and handling so that the user may anticipate the prompt)*,
- a second utterance await and recognition step, for awaiting said user's utterance after said second reproducing step, and when said user uttered, for recognizing the contents of the above utterance*(Fig. 6, col. 11, lines 3-48, the caller's response is collected (620) and a matching entry or entries in a specified vocabulary is determined using input speech components (450))*, and
- a second generation of answering sentence request step, following said second utterance await and recognition step, for requesting said response generating means to generate said answering sentence corresponding to said contents of said user's utterance *(Fig. 6, col. 11, lines 43-48, confirmation step (630)*

sequentially outputs confirmation prompts for each hypothesis to confirm or reject them) .

17. With respect to **claim 10**, Marx teaches everything claimed, as applied above (see claim 9); in addition, Marx further teaches the voice dialogue system according to claim 9, comprising; as one of said blocks, a seventh block having a third loop in which if the attribute of said answering sentence, that was generated by said response generating part responding to said request in said second generation of answering sentence request step, is the third loop type, it returns to said second utterance await and recognition step *(Fig. 6, col. 13, lines 12-67, if no response is collected or if the service is not able to confirm a hypothesis matching the caller's response (620a, 630a) dialogue module may determine to reattempt to collect a response using the same prompt method (610 via 640a))* .

18. Independent **claim 11** is very similar to system claim of independent claim 1 in scope and content and is rejected for the same reasons.

19. **Claim 12** is very similar to the system claim of claim 2 in scope and content and is rejected for the same reasons.

20. **Claim 13** is very similar to the system claim of claim 3 in scope and content and is rejected for the same reasons.

21. **Claim 14** is very similar to the system claim of claim 4 in scope and content and is rejected for the same reasons.

22. **Claim 15** is very similar to the system claim of claim 5 in scope and content and is rejected for the same reasons.

23. **Claim 16** is very similar to the system claim of claim 6 in scope and content and is rejected for the same reasons.

24. **Claim 17** is very similar to the system claim of claim 7 in scope and content and is rejected for the same reasons.

25. **Claim 18** is very similar to the system claim of claim 8 in scope and content and is rejected for the same reasons.

26. **Claim 19** is very similar to the system claim of claim 9 in scope and content and is rejected for the same reasons.

27. **Claim 20** is very similar to the system claim of claim 10 in scope and content and is rejected for the same reasons.

28. Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by Horinaka et al. (US 2003/0182122), hereinafter referred to as Horinaka.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

29. With respect to independent **claim 21**, Horinaka et al. teaches a robot apparatus comprising:

- speech recognition means for performing speech recognition on the user's utterance *(paragraph [0107], voice recognition processor (53) recognizes voices of the user)*;
- dialogue control means for controlling a dialogue with said user according to a scenario previously given, based on the speech recognition result by said speech recognition means *(Fig. 7, paragraph [0136-0139], robot recognizes words in uttered words with understanding object (72) and creates a reply sentence with creation object (74), depending on the type of utterance)*;
- response generating means for generating an answering sentence corresponding to the contents of said user's utterance, responding to a request from said dialogue control means *(Fig. 7, paragraph [0136-0139], robot recognizes words in uttered words with understanding object (72) and creates a reply sentence with creation object (74))*; and

- speech synthesis means for performing speech synthesis processing to one sentence in said scenario reproduced by said dialogue control means or said answering sentence generated by said response generating means *(paragraph [0139], creation object (74) creates a reply sentence which are output via the execution object (75) and speaker (17))*; and
- said robot apparatus wherein, said dialogue control means requests said response generating means to generate said answering sentence as the occasion demands, based on the contents of said user's utterance *(paragraphs [0136-0139], understanding object (72) determines the type of sentence, subject, and predicate, which is used by the creation object (74) to create the response)*.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Monaco et al. (US 6,314,402), Sinai et al. (US 7,143,042), Weldon et al. (US 7,117,158), Miller et al. (US 7,359,860), and Hank et al. (US 6,321,198) teach methods and systems for interactive voice response using speech objects or other object-oriented call flow design.

Busayapongchai et al. (US 2002/0184023) and Strubbe et al. (US 6,721,706) teach methods and systems for interactive voice response.

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GINA W. LEE whose telephone number is (571)270-3139. The examiner can normally be reached on Monday to Friday, 8:00 AM - 5:00 PM EST.

32. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

33. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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